Test Report
Rate of Spread of Tack Coat

Project Name	PACKAGE 5(1) Improvements of Road Adjecent to Yelahanka Lake From Kenchanahalli to Chowdeshwari temple in Ward No.2. 2)Improvements and Asplating to New post office Main Road and cross roads in Ward no 01. 3)Improvements and Asplating to suggappa layout cross roads in ward No 01. 4)Improvements and Asplating to Shanimahathma swamy temple road and surabi layout 2nd Main and cross Roads in ward No 01. 5)Asplating to Balance Roads in A & B Sector of Yelahanka New Town in Ward No 04)
Client	Executive Engineer Project Yellahanka Division
Job No	MCTPL/BBMP/Project Division Yelahanka ZONE /P-5/1/2017-2018
Mix Type	Bituminous Concrete (BC)
Contractor	Sri. R.LOKESH
Location	At Site
Material	Bitumen
Sample No	9
Date	12-Apr-2018

Sl. No.	Determination	Unit	Test No 1		
			Longitudinal Distribution		
1	Size of Plate (mxn)	m^2	0.2x0.2	0.2x0.2	0.2x0.2
2	Area of the Plate (a)	m^2	0.04	0.04	0.04
3	Initial weight of the empty Plate (b)	kg	1.641	1.641	1.641
4	Final weight of plate after application of Tack Coat (c)	kg	1.659	1.658	1.655
5	Weight of Prime coat/ Tack Coat (d = c-b)	kg	0.018	0.017	0.014
6	Rate of spread (d/a)	kg / m^2	0.450	0.425	0.350
7	Average	kg / m^2	0.408		
8	Specified Limit	kg / m^2	Not less than 0.25 kg / m^2		

Results: Rate of Spread of Prime Coat / Tack Coat is: 0.408 kg / m2

Note:

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ii. The results relate only to the items tested.

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iv. Any query regarding the report must be reported immediately.

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Asst. Executive Engineer
Project Division
Yelahanka Zone
Bangalore

Test Report
Aggregate Impact Value

Project Name	PACKAGE 5(1) Improvements of Road Adjecent to Yelahanka Lake From Kenchanahalli to Chowdeshwari temple in Ward No.2. 2)Improvements and Asplating to New post office Main Road and cross roads in Ward no 01. 3)Improvements and Asplating to suggappa layout cross roads in ward No 01. 4)Improvements and Asplating to Shanimahathma swamy temple road and surabi layout 2nd Main and cross Roads in ward No 01. 5)Asplating to Balance Roads in A & B Sector of Yelahanka New Town in Ward No 04)
Client	Executive Engineer Project Yellahanka Division
Job No	MCTPL/BBMP/Project Division Yelahanka ZONE /P-5/1/2017-2018
Mix Type	Bituminous Concrete (BC)
Contractor	Sri. R.LOKESH
Test Method	IS : 2386 (Part - 4) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	At Site
Material	Coarse Aggregate
Sample No	1
Date	6-Apr-2018

Sl. No.	Determination	Unit	Trails	
1	Weight of empty cylinder, w1	gm	960	960
2	Weight of container filled with Aggregate, w2	gm	1307	1309
3	Weight of the Aggregate before compaction, (w2 - w1) = w3	gm	347	349
4	Weight of the sample passing through 2.36 mm IS sieves after Impact, w4	gm	81	83
5	Weight of the sample retained on 2.36 mm IS sieve after Impact, w5	gm	266	266
6	Aggregate Impact Value (w4 / w3)x100	%	23.34	23.78
7	Specified Limit	%	24	

Results: Average Aggregate Impact Value: **23.56** %

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Asst. Executive Engineer
Project Division
Yelahanka Zone
Bangalore

Test Report
Aggregate Impact Value

Project Name	PACKAGE 5(1) Improvements of Road Adjecent to Yelahanka Lake From Kenchanahalli to Chowdeshwari temple in Ward No.2. 2)Improvements and Asplating to New post office Main Road and cross roads in Ward no 01. 3)Improvements and Asplating to suggappa layout cross roads in ward No 01. 4)Improvements and Asplating to Shanimahathma swamy temple road and surabi layout 2nd Main and cross Roads in ward No 01. 5)Asplating to Balance Roads in A & B Sector of Yelahanka New Town in Ward No 04)
Client	Executive Engineer Project Yellahanka Division
Job No	MCTPL/BBMP/Project Division Yelahanka ZONE /P-5/1/2017-2018
Mix Type	Bituminous Concrete (BC)
Contractor	Sri. R.LOKESH
Test Method	IS : 2386 (Part - 4) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	At Site
Material	Coarse Aggregate
Sample No	2
Date	8-Apr-2018

Sl. No.	Determination	Unit	Trails	
1	Weight of empty cylinder, w1	gm	960	960
2	Weight of container filled with Aggregate, w2	gm	1312	1314
3	Weight of the Aggregate before compaction, (w2 - w1) = w3	gm	352	354
4	Weight of the sample passing through 2.36 mm IS sieves after Impact, w4	gm	79	81
5	Weight of the sample retained on 2.36 mm IS sieve after Impact, w5	gm	273	273
6	Aggregate Impact Value (w4 / w3)x100	%	22.44	22.88
7	Specified Limit	%	24	

Results: Average Aggregate Impact Value: **22.66** %

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Asst. Executive Engineer
Project Division
Yelahanka Zone
Bangalore

Test Report
Aggregate Particle Shape

Project Name	PACKAGE 5(1) Improvements of Road Adjecent to Yelahanka Lake From Kenchanahalli to Chowdeshwari temple in Ward No.2. 2)Improvements and Asplating to New post office Main Road and cross roads in Ward no 01. 3)Improvements and Asplating to suggappa layout cross roads in ward No 01. 4)Improvements and Asplating to Shanimahathma swamy temple road and surabi layout 2nd Main and cross Roads in ward No 01. 5)Asplating to Balance Roads in A & B Sector of Yelahanka New Town in Ward No 04)
Client	Executive Engineer Project Yellahanka Division
Job No	MCTPL/BBMP/Project Division Yelahanka ZONE /P-5/1/2017-2018
Mix Type	Bituminous Concrete (BC)
Contractor	Sri. R.LOKESH
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Hot Mix Plant
Material	Coarse Aggregates
Sample No	1
Date	6-Apr-2018

I.S. Sieves Size		Weight of Retained Sample on Each Sieve (minimum 200 Pieces) (gm)	Flakiness Index		Elongation Index	
Passing through IS Sieves (mm)	Retained on IS Sieves (mm)		Thickness Gauge	Weight of Aggregates in each fraction passing on thickness gauges (gm)	Length Gauge	Weight of Aggregates in Fraction retained on length gauges (gm)
63	50	0	33.9	0	-	0
50	40	0	27	0	81	0
40	25	0	19.5	0	58.5	0
31.5	25	0	16.95	0	-	0
25	20	1555	13.5	235	40.5	253
20	16	1443	10.8	122	32.4	149
16	12.5	953	8.55	148	25.6	155
12.5	10	463	6.75	65	20.2	71
10	6.3	232	4.89	54	14.7	61
	SW	4646	SWf	624	SWe	689

Flakiness Index 13.43 %

Elongation Index 14.83 %

Combined Flakiness and Elongation Indices : 28.26 %

Comments: Maximum allowable Combined Flakiness and Elongation Indices for Bituminous Concrete is 35%.

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Asst. Executive Engineer
Project Division
Yelahanka Zone
Bangalore

Test Report
Aggregate Particle Shape

Project Name	PACKAGE 5(1) Improvements of Road Adjecent to Yelahanka Lake From Kenchanahalli to Chowdeshwari temple in Ward No.2. 2)Improvements and Asplating to New post office Main Road and cross roads in Ward no 01. 3)Improvements and Asplating to suggappa layout cross roads in ward No 01. 4)Improvements and Asplating to Shanimahathma swamy temple road and surabi layout 2nd Main and cross Roads in ward No 01. 5)Asplating to Balance Roads in A & B Sector of Yelahanka New Town in Ward No 04)
Client	Executive Engineer Project Yellahanka Division
Job No	MCTPL/BBMP/Project Division Yelahanka ZONE /P-5/1/2017-2018
Mix Type	Bituminous Concrete (BC)
Contractor	Sri. R.LOKESH
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Hot Mix Plant
Material	Coarse Aggregates
Sample No	2
Date	8-Apr-2018

I.S. Sieves Size		Weight of Retained Sample on Each Sieve (minimum 200 Pieces) (gm)	Flakiness Index		Elongation Index	
Passing through IS Sieves (mm)	Retained on IS Sieves (mm)		Thickness Gauge	Weight of Aggregates in each fraction passing on thickness gauges (gm)	Length Gauge	Weight of Aggregates in Fraction retained on length gauges (gm)
63	50	0	33.9	0	-	0
50	40	0	27	0	81	0
40	25	0	19.5	0	58.5	0
31.5	25	0	16.95	0	-	0
25	20	1560	13.5	240	40.5	258
20	16	1448	10.8	127	32.4	154
16	12.5	958	8.55	153	25.6	160
12.5	10	468	6.75	70	20.2	76
10	6.3	237	4.89	59	14.7	66
	SW	4671	SWf	649	SWe	714

Flakiness Index 13.89 %
Elongation Index 15.29 %
Combined Flakiness and Elongation Indices : 29.18 %

Comments: Maximum allowable Combined Flakiness and Elongation Indices for Bituminous Concrete is 35%.

Note:

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Asst. Executive Engineer
Project Division
Yelahanka Zone
Bangalore

Test Report
Aggregate Stripping Value

Project Name	PACKAGE 5(1) Improvements of Road Adjecent to Yelahanka Lake From Kenchanahalli to Chowdeshwari temple in Ward No.2. 2)Improvements and Asplating to New post office Main Road and cross roads in Ward no 01. 3)Improvements and Asplating to suggappa layout cross roads in ward No 01. 4)Improvements and Asplating to Shanimahathma swamy temple road and surabi layout 2nd Main and cross Roads in ward No 01. 5)Asplating to Balance Roads in A & B Sector of Yelahanka New Town in Ward No 04)
Client	Executive Engineer Project Yellahanka Division
Job No	MCTPL/BBMP/Project Division Yelahanka ZONE /P-
Mix Type	Bituminous Concrete (BC)
Contractor	Sri. R.LOKESH
Test Method	IS : 6241 - 1971 & Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Hot Mix Plant
Material	Coarse Aggregates / Bitumen
Sample No	1
Date	4-Apr-2018
Type of Aggregate	Coarse Aggregate
Type of Binder	60 / 70 Grade
Percentage of Binder Used	5% by weight
Total weight of Aggregate	200 gms
Total weight of Binder	10 gms
Temperature of water bath	40^0C

Observation Number	Stripping Percentage	Average Percentage	Average Retained Coating (%)
1	3.6	3.5	96.5
2	3.5		
3	3.4		

Comments: Minimum allowable Aggregate Stripping Value for Bituminous Concrete is 95%

Note:

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Asst. Executive Engineer
Project Division
Yelahanka Zone
Bangalore

Test Report

Specific Gravity and Water Absorption

Project Name	PACKAGE 5(1) Improvements of Road Adjecent to Yelahanka Lake From Kenchanahalli to Chowdeshwari temple in Ward No.2. 2)Improvements and Asplating to New post office Main Road and cross roads in Ward no 01. 3)Improvements and Asplating to suggappa layout cross roads in ward No 01. 4)Improvements and Asplating to Shanimahathma swamy temple road and surabi layout 2nd Main and cross Roads in ward No 01. 5)Asplating to Balance Roads in A & B Sector of Yelahanka New Town in Ward No 04)
Client	Executive Engineer Project Yellahanka Division
Job No	MCTPL/BBMP/Project Division Yelahanka ZONE /P-5/1/2017-2018
Mix Type	Bituminous Concrete (BC)
Contractor	Sri. R.LOKESH
Test Method	IS: 2386 (Part - 111) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Hot Mix Plant
Material	Coarse Aggregates
Sample No	1
Date	4-Apr-2018

Sl. No.	Particulars	Computations	Test Numbers		Mean
			Test 1	Test 2	
1	Weight of Empty Basket Immersed in Water	W_1 g	761	763	
2	water	W_2g	2024	2022	
3	Weight of Saturated Aggregate in water	W_sg = W_2- W_1	1263	1259	
4	Weight of saturated surface dry aggregate in Air	W_3 g	2059	2047	
5	Aggregate	W_3- W_s	796	788	
6	Weight of Oven dried Aggregate	W_4g	2020	2018	
7	Specific Gravity	W_4/(W_3- W_s)	2.54	2.56	2.55
8	Apparent Specific Gravity	W_4/(W_4- W_s)	2.67	2.66	2.66
9	Water Absorption	(W_4- W_3)*100/ W_4	1.93	1.44	1.69

Comments: Maximum allowable Aggregate Water Absorption value for Bituminous Concrete is 2.0%.

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Asst. Executive Engineer
Project Division
Yelahanka Zone
Bangalore

Test Report
Aggregate Gradation

Project Name	PACKAGE 5(1) Improvements of Road Adjecent to Yelahanka Lake From Kenchanahalli to Chowdeshwari temple in Ward No.2. 2)Improvements and Asplating to New post office Main Road and cross roads in Ward no 01. 3)Improvements and Asplating to suggappa layout cross roads in ward No 01. 4)Improvements and Asplating to Shanimahathma swamy temple road and surabi layout 2nd Main and cross Roads in ward No 01. 5)Asplating to Balance Roads in A & B Sector of Yelahanka New Town in Ward No 04)
Client	Executive Engineer Project Yellahanka Division
Job No	MCTPL/BBMP/Project Division Yelahanka ZONE /P-5/1/2017-2018
Mix Type	Bituminous Concrete (BC)
Contractor	Sri. R.LOKESH
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Hot Mix Plant
Material	Coarse Aggregates
Sample No	1
Date	6-Apr-2018

Weight of Sample: 4000 gms

Sl. No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	19.00	0	0.00	0.00	100.00	100	Gradation satisfies the MORT&H Grade ll Specification for Bituminous Concrete
2	13.20	673	16.83	16.83	83.18	72-100	
3	9.50	432	10.80	27.63	72.38	70-88	
4	4.75	231	5.78	33.40	66.60	53-71	
5	2.36	476	11.90	45.30	54.70	42-58	
6	1.18	342	8.55	53.85	46.15	34-48	
7	0.60	436	10.90	64.75	35.25	26-38	
8	0.30	428	10.70	75.45	24.55	18-28	
9	0.15	381	9.53	84.98	15.03	12-20)	
10	0.075	362	9.05	94.03	5.97	(4-10)	

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Asst. Executive Engineer
Project Division
Yelahanka Zone
Bangalore

Test Report
Aggregate Gradation

Project Name	PACKAGE 5(1) Improvements of Road Adjecent to Yelahanka Lake From Kenchanahalli to Chowdeshwari temple in Ward No.2. 2)Improvements and Asplating to New post office Main Road and cross roads in Ward no 01. 3)Improvements and Asplating to suggappa layout cross roads in ward No 01. 4)Improvements and Asplating to Shanimahathma swamy temple road and surabi layout 2nd Main and cross Roads in ward No 01. 5)Asplating to Balance Roads in A & B Sector of Yelahanka New Town in Ward No 04)
Client	Executive Engineer Project Yellahanka Division
Job No	MCTPL/BBMP/Project Division Yelahanka ZONE /P-5/1/2017-2018
Mix Type	Bituminous Concrete (BC)
Contractor	Sri. R.LOKESH
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Hot Mix Plant
Material	Coarse Aggregates
Sample No	2
Date	8-Apr-2018

Weight of Sample: 4000 gms

Sl. No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	19.00	0	0.00	0.00	100.00	100	Gradation satisfies the MORT&H Grade ll Specification for Bituminous Concrete
2	13.20	675	16.88	16.88	83.13	72-100	
3	9.50	434	10.85	27.73	72.28	70-88	
4	4.75	233	5.83	33.55	66.45	53-71	
5	2.36	478	11.95	45.50	54.50	42-58	
6	1.18	344	8.60	54.10	45.90	34-48	
7	0.60	438	10.95	65.05	34.95	26-38	
8	0.30	430	10.75	75.80	24.20	18-28	
9	0.15	383	9.58	85.38	14.63	12-20)	
10	0.075	364	9.10	94.48	5.53	(4-10)	

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Asst. Executive Engineer
Project Division
Yelahanka Zone
Bangalore

Test Report
Stability of Mix

Project Name	PACKAGE 5(1) Improvements of Road Adjecent to Yelahanka Lake From Kenchanahalli to Chowdeshwari temple in Ward No.2. 2)Improvements and Asplating to New post office Main Road and cross roads in Ward no 01. 3)Improvements and Asplating to suggappa layout cross roads in ward No 01. 4)Improvements and Asplating to Shanimahathma swamy temple road and surabi layout 2nd Main and cross Roads in ward No 01. 5)Asplating to Balance Roads in A & B Sector of Yelahanka New Town in Ward No 04)
Client	Executive Engineer Project Yellahanka Division
Job No	MCTPL/BBMP/Project Division Yelahanka ZONE /P-5/1/2017-2018
Mix Type	Bituminous Concrete (BC)
Contractor	Sri. R.LOKESH
Test Method	Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Bay
Material	Bituminous Concrete mix
Sample No	1
Date	8-Apr-2018

Sl. No.	Description	Unit	Test 1	Requirements as per MORT&H
1	Marshal Stability	KN	**9.6**	9 KN (min)
2	Marshal Flow	mm	**3.51**	2 – 4 mm
3	Percent of Air Voids in mix	%	**4.32**	3 – 6 %
4	Percent of Voids in Mineral Aggregates filled with Bitumen	%	**73**	65 – 75 %
5	Density	g/cc	**2.22**	2.22 g/cc

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